

## CLAIMS

Claim 90. (previously presented): A biosensor comprising:

a top outer layer containing at least one fluid port;

a fluidics layer below said top outer layer containing  
at least one fluidics channel in fluid communication  
with said fluid port;

a first cladding layer below said fluidics layer  
containing at least one micro-cuvette in fluid  
communication with said fluidics channel;

a waveguide core layer containing at least one channel  
waveguide core in contact with said micro-cuvette;

a second cladding layer below said waveguide core  
layer in contact with said waveguide core;

an excitation light source optically coupled into said  
waveguide core layer;

whereby, fluid containing samples and optical tags placed in said fluid port is transferred by said fluidics channel into said micro-cuvette where light from said excitation light source enters said micro-cuvette by means of an evanescent wave in said first cladding layer exciting any of said optical tags binding to target molecules in said micro-cuvette.

Claim 91. (previously presented): The laminar biosensor of claim 90 further comprising a plurality of micro-cuvettes in said first cladding layer.

Claim 92. (previously presented): The laminar biosensor of claim 90 further comprising a plurality of channel waveguide cores in said waveguide core layer.

Claim 93. (previously presented): The laminar biosensor of claim 90 further comprising a bottom supporting layer below said second cladding layer.

Claim 94. (previously presented): The laminar biosensor of claim 93 wherein said bottom supporting layer is optically transparent to light produced by said optical tags.